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09/965,679	09/27/2001	Trent M. Molter	PES-0040	2897
23462	7590	08/05/2005	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			WILLS, MONIQUE M	
			ART UNIT	PAPER NUMBER
			1746	
DATE MAILED: 08/05/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/965,679

Applicant(s)

MOLTER ET AL.

Examiner

Monique M. Wills

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 1-10, 34-43, 53, 54 and 64 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 55-63 is/are allowed.
- 6) ☒ Claim(s) 11-14, 20, 22-24, 28 and 30-33 is/are rejected.
- 7) ☒ Claim(s) 15-19, 21, 25-27 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2-11-2 - 12-26-2 - 2 - 25-4-8-30-4  
6-28-5
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 1-10 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected electrochemical cell, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 21, 2005.

Claims 34-41 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected method of fabricating a resilient pressure pad, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 21, 2005.

Claims 42-43 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected method of maintaining compression there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 21, 2005.

Claims 53-54 & 64 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected electrolysis stack, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 21, 2005.

Applicant's election with traverse of the election in the reply filed on January 21, 2005 is acknowledged. The traversal is on the ground(s) that the

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combination/subcombination of Groups II and V is improper because the combination requires the electrochemically-conductive compression pad that constitutes the essential distinguishing feature of the combination as claimed. This is not found persuasive because in claims 11, 23 & 30 the "pressure pad" limitation does not impart patentability to the claims. For example, in claim 11 the claim is directed towards an electrically conductive planar member with dimples and claim 53 is drawn to an electrolysis stack comprising a pressure pad. The requirement is still deemed proper and is therefore made FINAL.

### ***Interference***

An interference of claims 44-52 & 55-63 has been requested. However, an interference cannot be initiated since a prerequisite for interference under 37 CFR 1.606 is that the claim be patentable to the applicant subject to a judgement in the interference. In the instant case, claims 44-52 are not patentable.

### ***Allowable Subject Matter***

Claims 15-19, 21 & 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The instant claims are allowable of the prior art of record, because the prior art is silent to a dimpled pressure pad comprising an elastomeric member disposed at the dimples.

Claims 25-27 & 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The instant claims are allowable of the prior art of record, because the prior art is silent to a corrugated pressure pad comprising an elastomeric member.

Claims 55-63 are allowable over the prior art of record, because the prior art is silent to a pressure pad comprising a single sheet of electrically-conductive material being bent up and down to include a plurality of alternating ribs and channels and an elastomeric material mounted within the channels so that when the elastomeric material is compressed, it lies flush with the ribs and exerts substantially uniform pressure across each of the top and bottom surface of a single sheet.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-13, 20 & 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Willmann et al. U.S. Patent 5,250,372.

With respect to claim 11, Willmann teaches an electrolyte-immobilizing mat for a mat-immobilized-electrolyte battery comprising electrically conductive planar glass with a plurality of dimples (col. 1, lines 15-20 & Fig. 1). The dimples are configured to impart resilience to the pressure pad in response to pressure variations because the dimples are mad from a randomly oriented resilient fibers (abstract). The pressure pad is resilient, because it is made from resilient glass fibers (col. 6, lines 20-25). With respect to claim 12, the dimples are semi-spherical in geometry. See Figure 1. As to claim 13, the dimples inherently comprise a stress point, because all dimpled materials will collapse under sufficient pressure. As to claim 20, the pressure pad includes electrically conductive polymers (col. 7, lines 35-45). With respect to claim 22, the resilient pressure pad is in fluid communication with the electrodes via the sulfuric acid electrolyte (See the Abstract). Therefore, the instant claims are anticipated by Willmann.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Willmann et al. U.S. Patent 5,250,372 in view of Kuriyama et al. U.S. Pub. 2004/0091754.

Willman teaches a resilient pressure pad as described in the §102 rejection cited hereinabove.

The reference is silent to a frusto-pyramidical dimpled geometry.

However, Kuriyama teaches that such frusto-pyramidical shapes are conventionally employed in electrochemical members (see Abstract and Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the frusto-pyramidical shape of Kuriyama in the resilient pressure pad of Willman so that the pad can withstand a higher pressure. The skilled artisan recognizes that various geometrical shapes directly effect the structural integrity of the member.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 23 & 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Buchner et al. U.S. Patent 6,299,999.

With respect to claim 23, Buchner teaches an electrically conductive corrugated member (See Figure 1). The corrugated member (1) is in fluid communication with an electrode because agent streams flows from the corrugated member to the fuel cell electrodes (col. 2, lines 60-68 & col. 3, lines 1-8). As to the resilient pressure pad limitation, the electrically conductive corrugated member is resilient because of the plurality of individual lamellae and its fabrication from a spring sheet. See Figure 1 and column 5, lines 35-40.

With respect to claim 28, the conductive member is made of copper (col. 5, lines 35-40).



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Therefore, the instant claims are anticipated by Buchner.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 30 & 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Leonida et al. U.S. Patent 5,324,565.

With respect to claim 30, Leonida teaches a conductive elastomeric compression pad. See the Abstract. As to claim 32, the compression pad is adjacent to an electrode (col. 3, lines 15-20). This embraces the instant partition member, because the electrode functions as a partition between the pressure pad and the electrode of opposite polarity. Therefore, the instant claims are anticipated by Leonida.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 30 & 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Ward U.S. Patent 5,624,277.

Ward teaches a canted coil spring that is capable of functioning as a pressure pad for an electrochemical cell. See Figure 11 and col. 8, lines 1-10.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 30 & 33 are rejected under 35 U.S.C. 102(b) as being anticipated by S.H. McKnight U.S. Patent 1,769,066.

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McKnight teaches a resilient padding arranged to form a ring. See Figure

1.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 44, 46-50 & 52 are rejected under 35 U.S.C. 102(e) as being anticipated by Hodko et al. U.S. Patent 6,322,684.

With respect to claim 44, Hodko teaches an electrode with a pliable material core layer coated with metallic material to form a sheet (col. 5, lines 20-35). The limitation with respect to when the elastomeric material is compress, that it substantially uniform pressure is exerted across each of the top and bottom surface of the single sheet, is considered to be an inherent property of the apparatus taught by Hodko, because Hodko teaches the exact same structure made of the same materials set forth by applicant. With respect to claim 45, the electrically-conductive material is a sheet of metal (col.

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5, lines 30-35). With respect to claim 47, the metal is titanium or niobium (col. 5, lines 30-35). As to claim 48, the metal is niobium (col. 5, lines 30-35). As to claim 49, the elastomeric material is rubber (col. 5, lines 20-25). With respect to claim 50, the elastomeric material is a silicone (col. 5, lines 20-25). With respect to claim 52, the electrically-conductive material is rectangular in shape. See Figure 1. Therefore, the instant claims are anticipated by Hodko.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hodko et al. U.S. Patent 6,322,684.

Hodko teaches an electrically-conductive compression pad as described hereinabove.

The reference is silent to conductive material being bent to lie flush with the elastomeric material.

However, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to bend the electrically-conductive

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material flush to the elastomeric material to increase resiliency of the pressure pad.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hodko et al. U.S. Patent 6,322,684.

Hodko teaches an electrically-conductive compression pad as described hereinabove.

The reference is silent to the electrically-conductive material being circular in shape.

However, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ an electrically-conductive material in a circular shape to conform to tubular electrolysis cell stacks. The skilled artisan recognizes that the pad should have the same shape as the electrode so that the pressure is exerted uniformly across the sheet. Therefore,

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it is necessary for the material to have the same shape as the electrode material.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Michael Barr, may be reached at 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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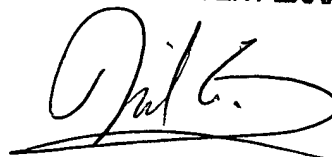
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Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MW

6/12/05

**MICHAEL BARR**  
**SUPERVISORY PATENT EXAMINER**

A handwritten signature in black ink, appearing to read "Michael Barr", with a long horizontal flourish underneath.